T0020 02nET360

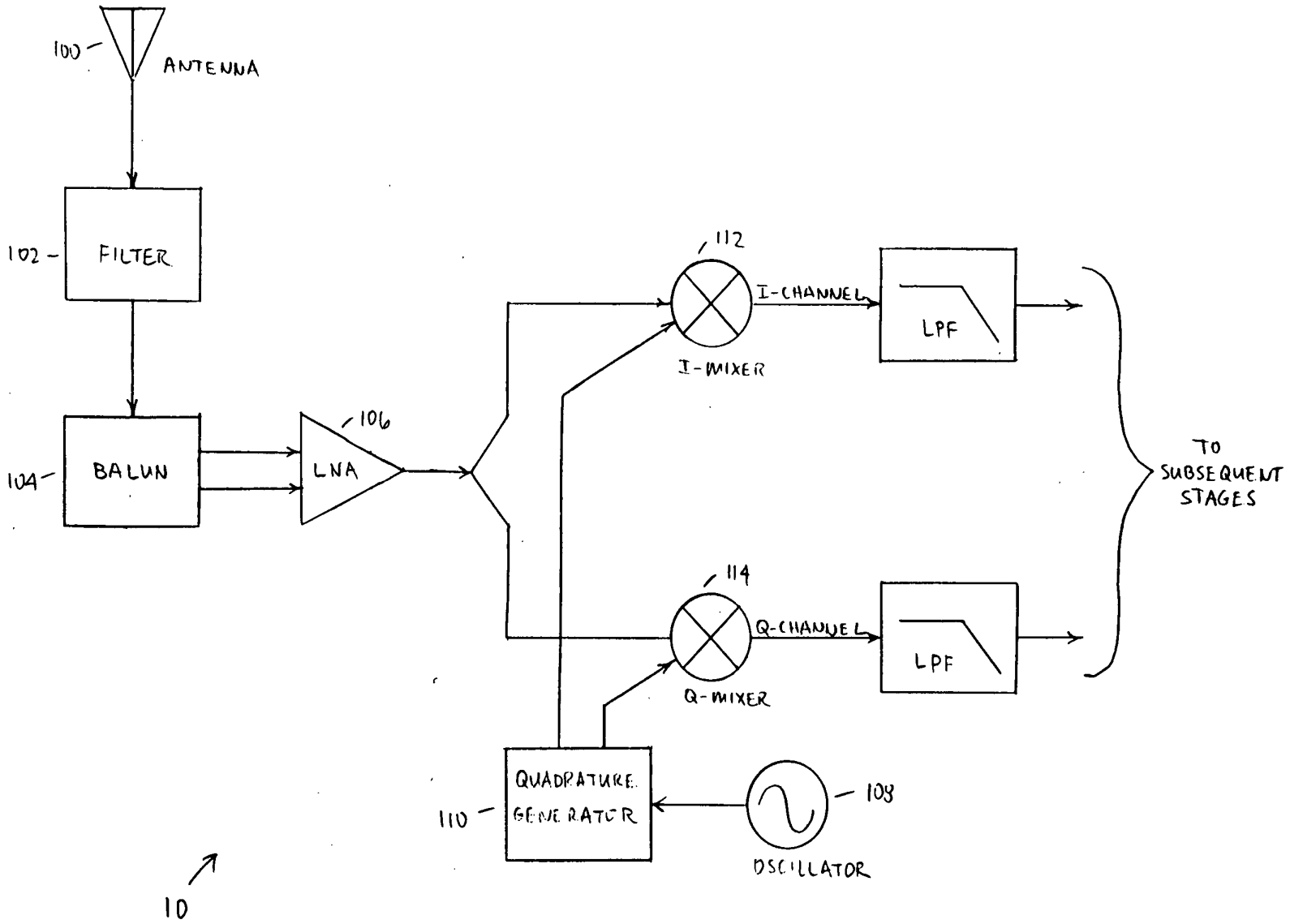


FIGURE 1

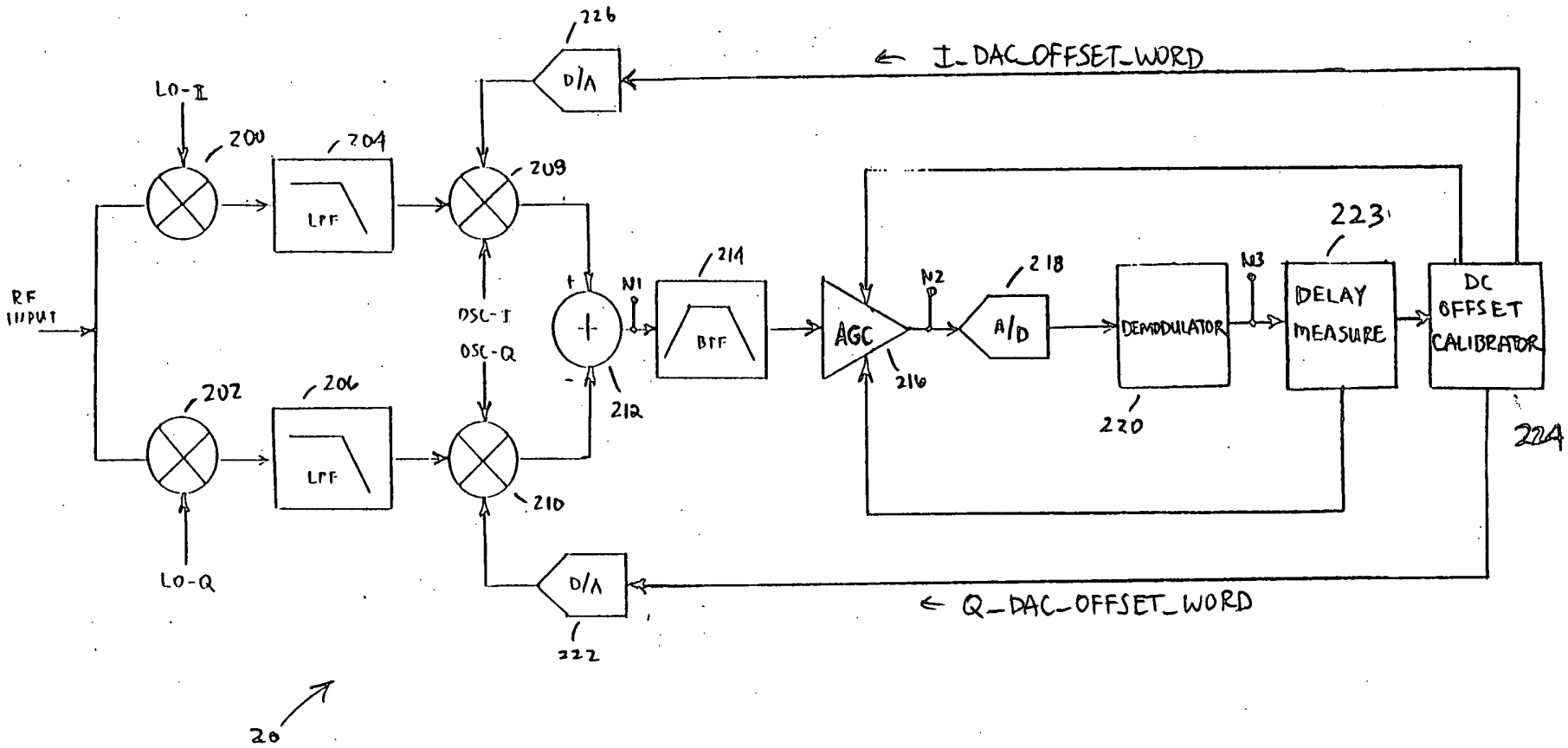

226
D/A
← I_DAC_OFFSET_WORD
LO-I
200
204
LPF
209
RF INPUT
OSC-I
OSC-Q
N1
214
BPF
AGC
216
N2
218
A/D
DEMODULATOR
220
N3
223
DELAY MEASURE
DC OFFSET CALIBRATOR
224
202
206
LPF
212
210
LO-Q
D/A
222
← Q_DAC_OFFSET_WORD
20

FIGURE 2

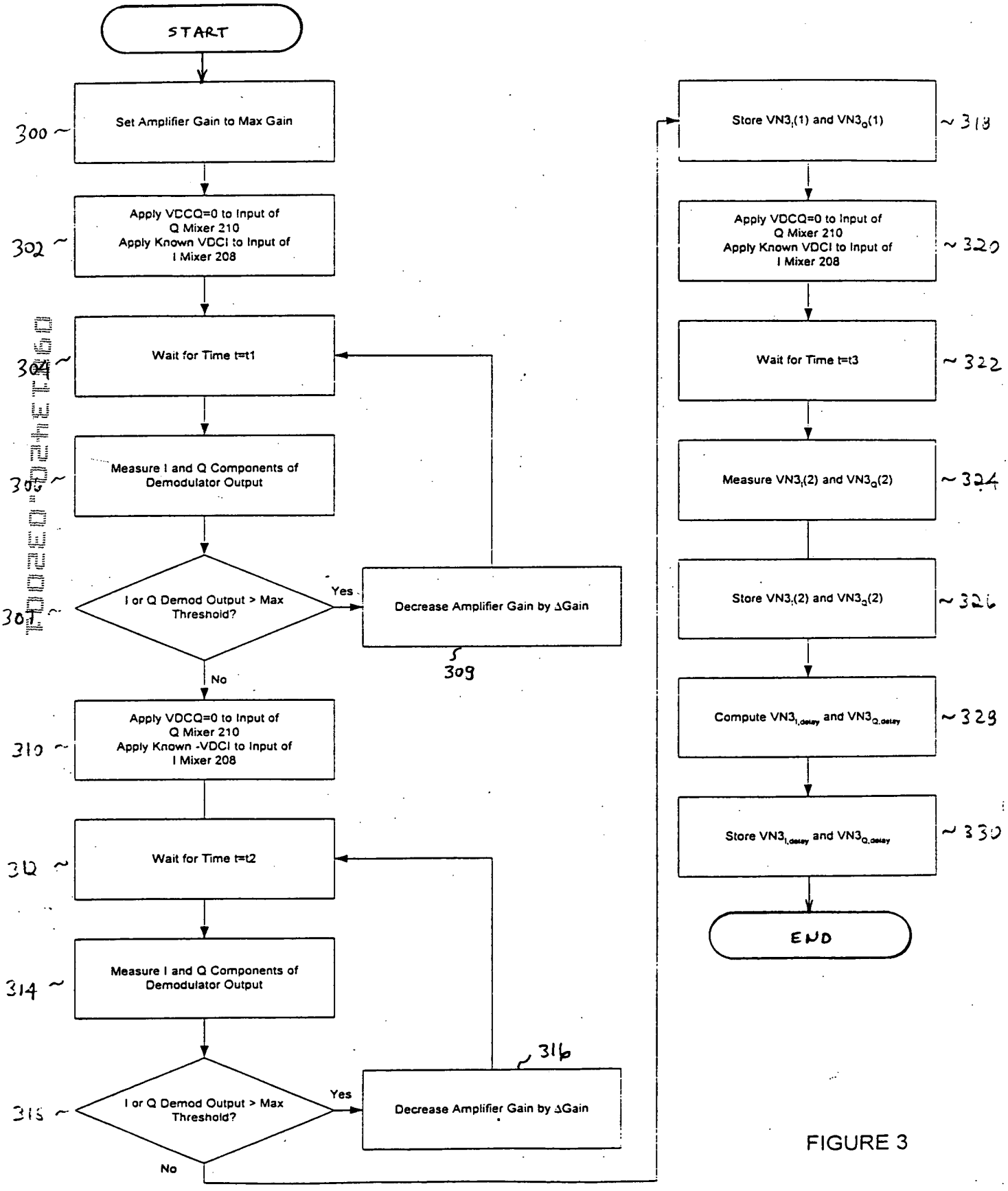
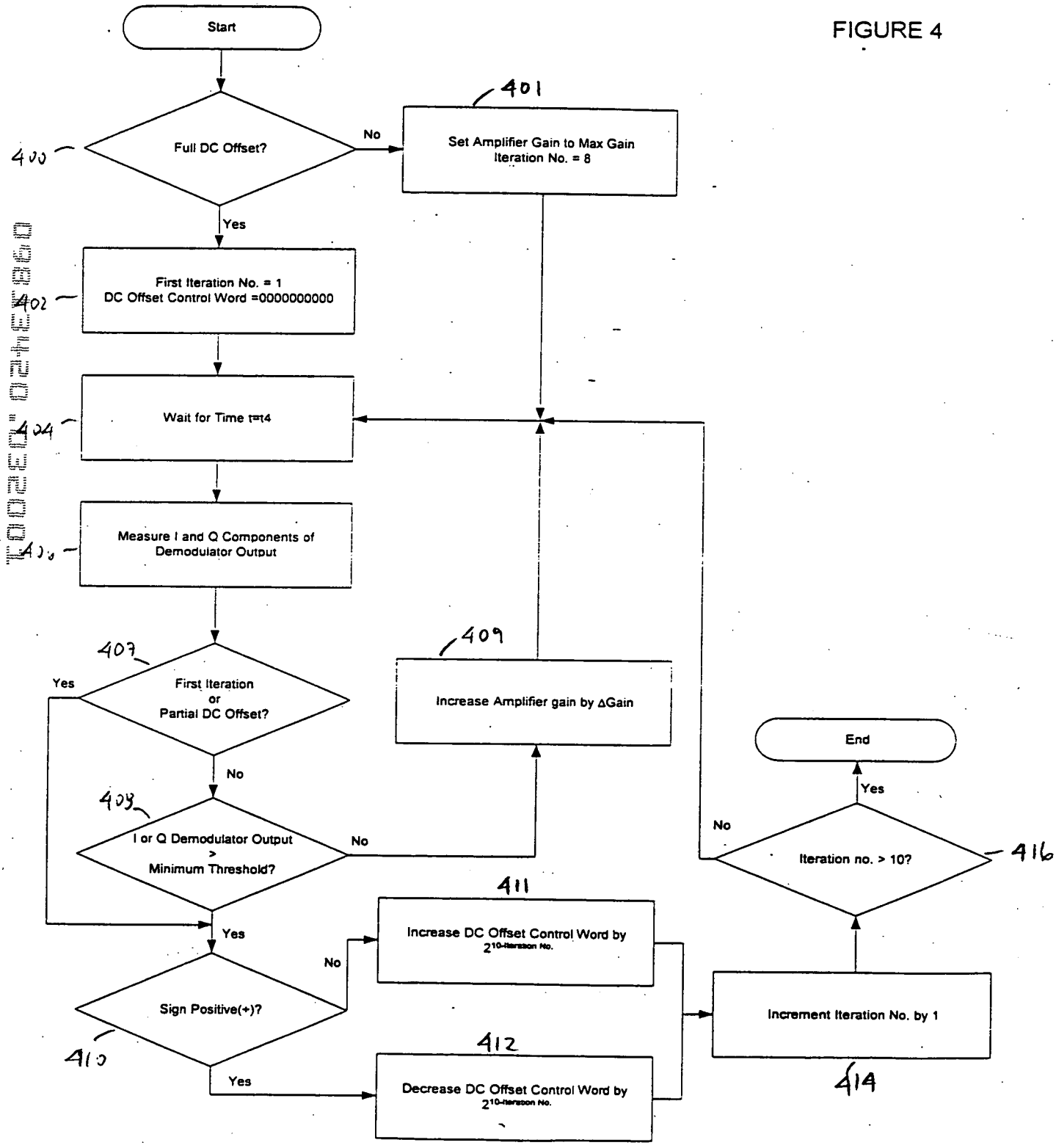

START
300
Set Amplifier Gain to Max Gain
302
Apply VDCQ=0 to Input of Q Mixer 210
Apply Known VDCI to Input of I Mixer 208
304
Wait for Time t=t1
306
Measure I and Q Components of Demodulator Output
308
I or Q Demod Output > Max Threshold?
Yes
Decrease Amplifier Gain by ΔGain
309
No
310
Apply VDCQ=0 to Input of Q Mixer 210
Apply Known -VDCI to Input of I Mixer 208
312
Wait for Time t=t2
314
Measure I and Q Components of Demodulator Output
315
I or Q Demod Output > Max Threshold?
Yes
316
Decrease Amplifier Gain by ΔGain
No
318
Store VN3I(1) and VN3Q(1)
320
Apply VDCQ=0 to Input of Q Mixer 210
Apply Known VDCI to Input of I Mixer 208
322
Wait for Time t=t3
324
Measure VN3I(2) and VN3Q(2)
326
Store VN3I(2) and VN3Q(2)
328
Compute VN3I,delay and VN3Q,delay
330
Store VN3I,delay and VN3Q,delay
END

FIGURE 3

FIGURE 4


Start
400
Full DC Offset?
No
401
Set Amplifier Gain to Max Gain
Iteration No. = 8
Yes
402
First Iteration No. = 1
DC Offset Control Word =0000000000
404
Wait for Time t=t4
406
Measure I and Q Components of
Demodulator Output
407
First Iteration
or
Partial DC Offset?
Yes
No
408
I or Q Demodulator Output
>
Minimum Threshold?
No
409
Increase Amplifier gain by ΔGain
Yes
410
Sign Positive(+)?
No
411
Increase DC Offset Control Word by
2^10-Iteration No.
Yes
412
Decrease DC Offset Control Word by
2^10-Iteration No.
414
Increment Iteration No. by 1
416
Iteration no. > 10?
No
Yes
End